TABLE 1.—*Classification of Nasal Disorders Based on Systematic Evaluation*

Inflammatory rhinitis
Eosinophilic allergic rhinitis
seasonal
perennial
Eosinophilic nonallergic rhinitis
Infectious rhinitis
viral
bacterial
Nasal polyps
Nasal mastocytosis
Atrophic rhinitis
Noninflammatory rhinitis
Vasomotor rhinitis
associated with local or systemic condition
autonomic dysfunction
Rhinitis medicamentosa
Structure-related rhinitis

can be measured by an active, single-nostril anterior rhinomanometric technique. Simultaneous recording of pressure and flow rate allows calculation of resistance. This determines the degree of reversible and fixed nasal obstruction when done before and after topical administration of a decongestant. This technique can also be used to record changes in nasal patency following allergic or chemical challenges and drug therapy. To evaluate for anosmia or hyposmia, the threshold for detecting inhaled pyridine is determined. Ciliary function is most simply tested after placing a small particle of saccharin on the anterior portion of the inferior turbinate. Elapsed time is recorded until a sweet taste is noted by the patient. Structural and functional abnormalities of cilia will prolong the time interval from placement to taste.

On the basis of this systematic evaluation, nasal disorders can be classified, as shown in Table 1. It should be noted that many of these categories can coexist, and may be acute or chronic in nature.

Organizing an approach on which to base clinical and laboratory findings can assist us in understanding these disorders and direct our continued research into their pathogenesis. Such an approach can place each rhinitis patient in a functional classification that suggests specific therapy. Similar methods have assisted the development of diagnostic and treatment criteria for lower airway diseases. Thus we can anticipate progress in the care of patients with rhinitis.

ELI O. MELTZER, MD
ALFREDO A. JALOWAYSKI, PhD

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Seminal Fluid Allergy

URTICARIA AND HYPERVENTILATION after coitus have occasionally been reported to physicians, who attributed such reactions to psychic agitation. However, a case has been reported of a woman who had anaphylactic shock consisting of angioedema, wheezing, "uterine pain" and cardiovascular collapse within minutes of coitus. A glycoprotein fraction of seminal plasma was identified as the antigen. Diluted to 10^{-6} it caused a positive reaction on direct skin tests; her serum caused a positive reaction on passive transfer tests. Since this initial case there have been sporadic reports of anaphylaxis due to semen. Levine and co-workers reported the case of a patient who had anaphylaxis, positive findings on skin tests and leukocyte histamine release (LHR) with a 20,000 to 30,000 molecular weight (mol wt) fraction of seminal plasma, but not of sperm extract. Her leukocytes reacted with this fraction of semen from seven different men tested.

IgE-antibody involvement in such cases has been found by radioallergosorbent test (RAST) with seminal fluid fractions. We have seen a patient who three times had anaphylaxis necessitating epinephrine; she also had a concomitant severe flare of her eczema. Immunotherapy with a dilution of her husband's semen has been attempted. Condom usage by the patient's husband has prevented subsequent reactions, except on two episodes of "condom tear accidents" when she had localized urticaria. RAST and LHR values fell during absence of exposure, only to rise abruptly after each accident.

Of four patients reported by Bernstein and associates, two had anaphylaxis that required epinephrine and two had only genital tissue edema and burning pain. Both women with anaphylaxis had positive reactions on skin tests, RAST and LHR. One had her first episode on first coitus after childbirth, as did our patient; a disrupted vaginal mucosa may add risk to such sensitization. The two women with severe localized reactions had positive findings on lymphoproliferation and leukocyte migration inhibition assays with both sem-

inal plasma and sperm extract, suggesting cellular immunity to semen. Two couples had a remarkable sharing of histocompatibility (HLA) antigens that suggested another possible predisposing factor to seminal sensitization, as has been suggested earlier for fertility problems. Although these reactions are considered rare, milder localized forms may mimic other female pelvic inflammatory conditions.

OSCAR L. FRICK, MD, PhD

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ADVISORY PANEL TO THE SECTION ON ALLERGY